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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,077	12/31/2003	Alan J. Solyntjes	58504US002	2080
32692	7590	07/22/2011	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY			MATTER, KRISTEN CLARETTE	
PO BOX 33427			ART UNIT	PAPER NUMBER
ST. PAUL, MN 55133-3427			3771	
			NOTIFICATION DATE	DELIVERY MODE
			07/22/2011	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ALAN J. SOLYNTJES, FLOYD L. FOSLIEN and
BENJAMIN A. JOHNSON

Appeal 2010-003043
Application 10/750,077
Technology Center 3700

Before SCOTT R. BOALICK, KARL D. EASTHOM, and ERIC B. CHEN,
Administrative Patent Judges.

CHEN, *Administrative Patent Judge.*

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) from the final rejection of claims 1-27, all the claims pending in the application. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

Appellants' invention relates to a personal respiratory protection device having a bayonet attachment system with connection that is incapable of being inadvertently removed. (Spec. Abstract.)

Claim 1 is exemplary (with disputed limitations in italics):

1. A personal respiratory protection device that comprises:
 - (a) a mask body that is adapted to fit at least over a person's nose and mouth;
 - (b) at least one fluid communication component located in fluid communication with the mask body so that a non-contaminated source of oxygen can be supplied to a wearer of the personal respiratory protection device;
 - (c) at least one non-contaminated breathing gas supply source component; and
 - (d) at least one bayonet attachment system that enables the breathing gas supply source component to be fluidically communicatively secured to the fluid communication component, the bayonet attachment system comprising a first portion and a second portion, *wherein when the first portion is attached to the second portion a connection is created that is incapable of being inadvertently separated.*

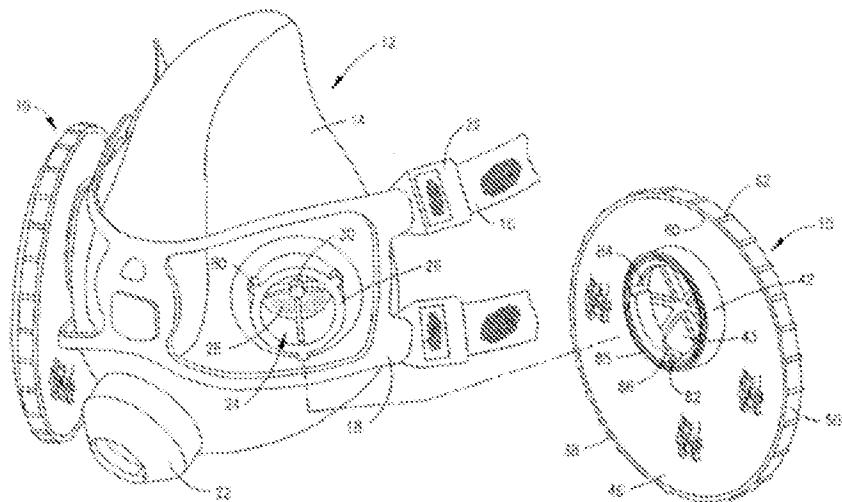
Claims 1-14 and 17-27 stand rejected under 35 U.S.C. § 103(a) as being obvious over Metzger (U.S. Patent No. 5,732,695) and Dumortier (U.S. Patent No. 4,364,689).

Claims 1-3, 7, 8, 10-16, 18-20, 23 and 24 stand rejected under 35 U.S.C. § 103(a) as obvious over Metzger and Del Rio (U.S. Patent No. 5,741,084).

We are not persuaded by Appellants' arguments (Br. 5-7) that the combination Metzger and Dumortier would not have rendered obvious independent claim 1 including the disputed limitation "wherein when the first portion is attached to the second portion a connection is created that is incapable of being inadvertently separated."

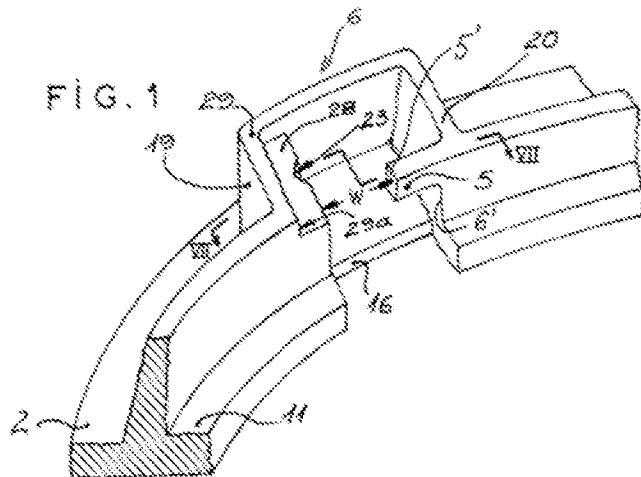
The Examiner acknowledged that Metzger does not teach this disputed claim limitation and cited Dumortier for the disclosure of a bayonet locking system with a pawl 7 mounted on a pin 8 that locks with a chamber 6. (Ans. 4; Dumortier, figs. 1-4.) The Examiner concluded that independent claim 1 would have been obvious. (Ans. 4.) We agree with the Examiner.

Metzger describes "a detachable filtration device for use with a respirator." (Col. 1, ll. 5-6.) A respirator 12 includes a face mask 14 which covers a user's nose and mouth (col. 3, ll. 39-40; fig. 1) and which carries two detachable filtration devices 10 (col. 3, ll. 35-39; fig. 1). Figure 1, a partially exploded perspective view of the respirator 12 and the filtration devices 10, is reproduced below:



The filtration devices 10 include an inner breather tube 42 for attachment to the respirator 12. (Col. 4, ll. 9-11; fig. 1.) The face mask 14 includes two inlet ports 24 (col. 3, ll. 57-58) with each inlet port 24 having an opening formed by a rigid tubular port wall 26 (col. 3, ll. 59-61). The inner breather tube 42 is detachably secured to the port wall 26 via a bayonet type fitting. (Col. 5, ll. 51-53.) The port wall 26 includes tabs 80 along an outer periphery (col. 5, ll. 54-56) such that the tabs 80 mate with slots 82 formed within an outer edge of an interior wall of the inner breather tube 42 (col. 5, ll. 54-57). The user attaches the filtration device 10 by aligning the tabs 80 with the slots 82 and rotating the filtration device 10 into a locking position. (Col. 6, ll. 22-26.)

Dumortier describes a manhole cover assembly (col. 1, ll. 5-6) with a bayonet connection to secure a manhole cover to a surrounding ring (col. 2, ll. 9-12). The manhole cover assembly includes a ring 2 having a flange 11 for seating a cover 3. (Col. 3, ll. 61-66; fig. 1.) Figure 1, a partial perspective view of the ring 2, is reproduced below:



The ring 2 includes at least one chamber 6 (col. 3, ll. 67-68; fig. 1) corresponding to fingers 4 formed on the cover 3 (col. 3, l. 68 to col. 4, l. 2;

fig. 2). The chamber 6 includes a window 6' and a gap 5' that is overhung by a beak 5. (Col. 4, ll. 6-9; fig. 1.) When the cover 3 is dropped into place, the finger 4 passes through the gap 5' into the window 6' (col. 4, ll. 10-11) and upon rotation of the cover 3, the finger 4 swings beneath the beak 5 (i.e., a bayonet connection) (col. 4, ll. 13-16). The finger 4 functions as a locking device and includes a pawl 7 mounted on a horizontal cylindrical pin 8. (Col. 4, ll. 17-23; figs. 2-4.) Figure 2, a fragmentary perspective view of the cover 3, including the finger 4 and the horizontal cylindrical pin 8, is reproduced below:

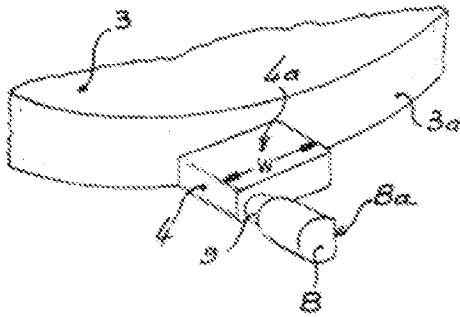
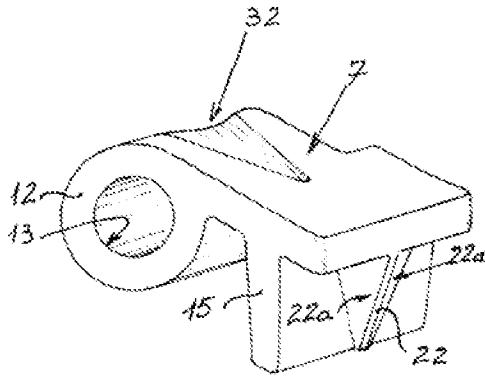


Figure 4, a perspective view of the pawl 7, is reproduced below:



When the pawl 7 is in its upright position, the fingers 4 are aligned with the windows 6' (fig. 7), allowing the cover 3 to be dropped into place (col. 4, ll. 60-62). After the cover 3 is rotated (col. 4, ll. 63-66), the pawl 7 is pivoted clockwise (col. 4, ll. 67-68; fig. 7) into a locking position (col. 3, ll.

41-42; fig. 8) to prevent accidental displacement of the cover 3 (col. 5, ll. 3-5) due to pivoting of the cover 3 from passing traffic (*see* col. 1, ll. 41-45). A key 44 (col. 6, l. 18; fig. 13) can be used to lift the pawl 7 upward (col. 6, ll. 24-31; fig. 14).

A person of ordinary skill in the art would have recognized that incorporating the locking device of Dumortier with the filtration device 10 of Metzger would provide the benefit of preventing accidental pivoting of the filtration device 10 from the face mask 14. *See KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 417 (2007). Thus, we agree with the Examiner (Ans. 4) that modifying Metzger to include the locking device of Dumortier would have been obvious.

Appellants argue that “Metzger clearly teaches away from applicants’ invention in that it suggests a detachable connection between the filter cartridge and the mask body.” (Br. 6.) This argument is not persuasive because a detachable connection does not preclude, or teach away from, one that prevents inadvertent separation. For example, a door knob and/or lock allows a door to become detached from its closed position while at the same time preventing inadvertent separation (i.e., inadvertent opening). This is analogous to the proposed modification.

Next, Appellants argue that “[t]he subject matter of applicants’ invention is a personal respiratory protection device” but “[a] manhole cover does not reside in this field.” (Br. 6.) However, in the “Background” section, Appellants’ Specification describes the use of bayonet systems to attach a filter cartridge to a face mask (Spec. 2:9-10) in which “[o]ccasions may arise . . . where a positive torque could be inadvertently applied to a cartridge on a mask” and “[t]he cartridge could bump or rub against an

adjacent object when the wearer moves, causing the cartridge to twist and become loosened from the facepiece” (Spec. 3:1-4). Appellants’ Specification further describes that the invention “addresses a security feature that enables the wearer to be confident that the bayonet connection has been seated correctly and that the connection cannot be inadvertently loosened.” (Spec. 3:7-9.) As discussed previously, Dumortier describes a manhole cover assembly with a bayonet connection locking device, including a pawl 7 to prevent accidental pivoting of the cover 3 and to secure the cover 3 to the surrounding ring 2.

Thus, Dumortier is analogous art. Prior art must be construed broadly to determine if it is analogous. *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1238 (Fed. Cir. 2010) (holding that references in a patent specification to prior art padlocks and broad scope of locking device claims indicated that padlocks were analogous art to trailer hitch lock devices, reasoning *inter alia* that *KSR* requires “us to construe the scope of analogous art broadly”) (citing and quoting *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 402 (2007)).

Even assuming for the sake of argument that Dumortier is not in the same field of endeavor of bayonet connections which it broadly appears to be under *Wyers* and *KSR*, Dumortier is reasonably pertinent to the particular problem of secure detachable bayonet connections with which the inventor is involved. *See In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004). In other words, Dumortier’s bayonet connection locking device provides a solution to the problem of loosening two attached components using a bayonet connection. *See id.*

Last, Appellants argue that “[e]ven if Dumortier did reside in an analogous field, however, the record also does not present any evidence that the Dumortier teachings could be suitably combined with those of Metzger.” (Br. 6-7.) As discussed previously, both Metzger and Dumortier describe bayonet connections and the combination of Metzger and Dumortier is based on the improvement of a similar device in the same way as in the prior art.

Therefore, we agree with the Examiner that the combination of Metzger and Dumortier would have rendered obvious “wherein when the first portion is attached to the second portion a connection is created that is incapable of being inadvertently separated.”

Accordingly, we sustain the rejection of independent claim 1 under 35 U.S.C. § 103(a). Claims 2-14 depend from claim 1 and Appellants have not presented any further arguments with respect to these claims. Therefore, we sustain the rejection of these claims under 35 U.S.C. § 103(a) for the reasons discussed with respect to claim 1.

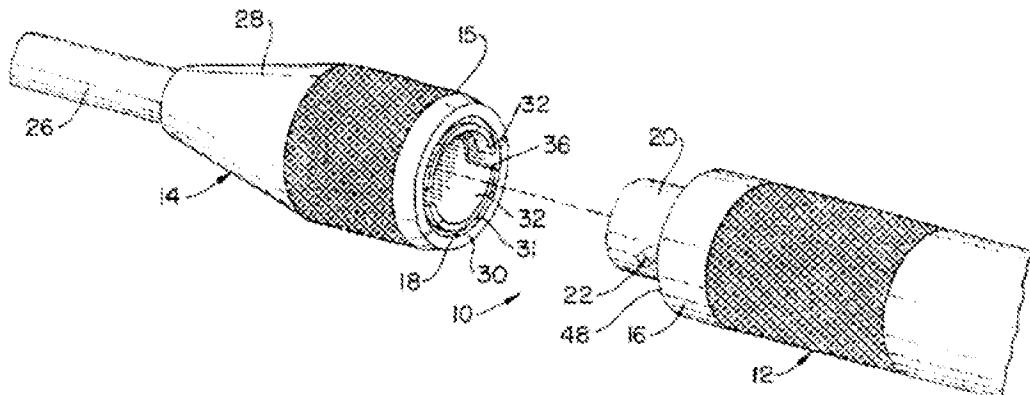
Independent claims 20, 23 and 25 recite limitations similar to those discussed with respect to independent claim 1. We sustain the rejection of claims 20, 23 and 25, as well as claims 21, 22, 24, 26 and 27, which depend from claims 20, 23 and 25, for the reasons discussed with respect to claim 1.

We are not persuaded by Appellants’ arguments (Br. 7) that the combination Metzger and Del Rio would not have rendered obvious independent claim 1 including the disputed limitation “wherein when the first portion is attached to the second portion a connection is created that is incapable of being inadvertently separated.”

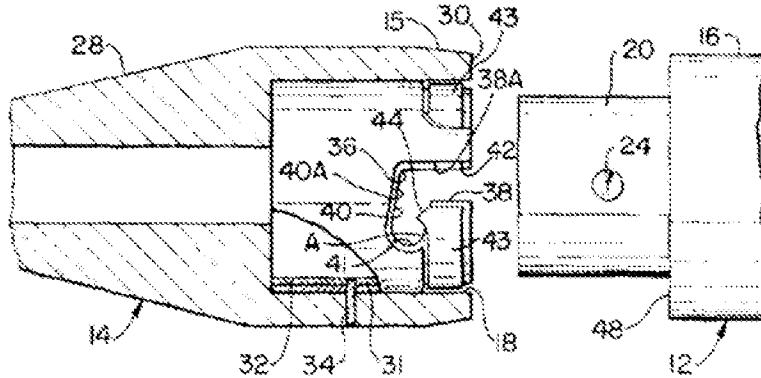
The Examiner acknowledged that Metzger does not teach this limitation and cited Del Rio for the disclosure of a bayonet connection of a

tubular extension 20 to a longitudinal aperture 18 including spring arms 43. (Ans. 6; Del Rio, figs. 3-5.) The Examiner also found that the tubular extension 20 and the longitudinal aperture 18 are “incapable of being inadvertently separated” because an “extra force to deform the spring arm is considered an ‘input’ that unlocks the first and second portions . . .” consistent with a definition provided in the Appellants’ Specification. (Ans. 11.) The Examiner concluded that independent claim 1 would have been obvious. (Ans. 6.) We agree with the Examiner.

Del Rio describes a bayonet connector assembly (col. 3, l. 23) for releasably attaching a variety of different tool bits to a motor driven surgical instrument (col. 1, ll. 8-11). A surgical instrument 10 includes a motor housing 12 and a removable nose piece 14 with a longitudinal aperture 18. (Col. 3, ll. 13-17; fig. 1.) The motor housing 12 includes a tubular extension 20 and is attached to the nose piece 14 using a bayonet connector. (Col. 3, ll. 22-26.) The tubular extension 20 includes two diametrically opposed pins 22 and 24. (Col. 3, ll. 27-29.) A pair of cylindrical sleeves 31 and 32 are placed in the aperture 18 (col. 3, ll. 37-38) with the sleeve 32 having a pair of L-shaped channels 36 (col. 3, ll. 45-46, 51-52) to receive the pins 22 and 24 (col. 3, ll. 49-50). Figure 1, an exploded view of the motor housing 12 and the nose piece 14, is illustrated below:



The sleeve 31 also includes a pair of cantilevered arcuate spring arms 43 (col. 4, ll. 22-23) to retain the pins 22 and 24 in the channels 36 (col. 5, ll. 29-32; figs. 3-5) to securely attach the motor housing 12 to the nose piece 14 (*see* col. 1, ll. 56-58). Figure 3, a partial view of the nose piece 14 in alignment with the housing 12 prior to attachment, is illustrated below:



A person of ordinary skill in the art would have recognized that incorporating the bayonet connector assembly of Del Rio, including the pair of spring arms 43 to retain the pins 22 and 24 in the pair of channels 36, with the filtration device 10 of Metzger would provide the benefit of securely attaching the filtration device 10 to the face mask 14. *See KSR*, 550 U.S. at 417. Thus, we agree with the Examiner (Ans. 6) that modifying Metzger to include the bayonet connector assembly of Del Rio would have been obvious.

Appellants argue that “the record also does not show that Del Rio resides in an analogous field, allowing it to be appropriately combined under 35 USC § 103.” (Br. 7.) As discussed previously, the “Background” section of Appellants’ Specification describes the problem in a bayonet system of loosening of a cartridge from the facepiece of a mask due to the inadvertent twisting of the cartridge. Del Rio teaches that conventional bayonet connections are not secure enough to withstand high speed vibrations for

surgical instruments. (Col. 1, ll. 44-47, 8-11.) Also discussed previously, Del Rio teaches a pair of spring arms 43 to retain pins 22 and 24 in a pair of channels 36 to securely attach a motor housing 12 to a removable nose piece 14. Thus, Del Rio is from the same field of endeavor as Appellants' claimed invention because both relate to connecting and locking two components using a bayonet connection to prevent loosening. *See Bigio*, 381 F.3d at 1325. Moreover, even assuming for the sake of argument that Del Rio is not in the same field of endeavor, Del Rio is reasonably pertinent to the particular problem with which the inventor is involved. Because the bayonet connector assembly of Del Rio provides a solution to the problem of the loosening of two attached components using a bayonet connection, Del Rio is reasonably pertinent to the particular problem with which the inventor is involved. *See Bigio*, 381 F.3d 1320 at 1325. In any event, under *Wyers* and *KSR*, Del Rio is analogous art.

Appellants also argue that “the two tubes [of Del Rio], which were relied on by the Examiner for disclosing the ‘incapable of being inadvertently separated feature’ are attached in a removable manner.” (Br. 7.) However, under the broadest reasonable interpretation, we agree with the Examiner that Del Rio teaches a tubular extension 20 and an aperture 18 that are “incapable of being inadvertently separated.” Appellants’ Specification defines “incapable of being inadvertently separated” as “the first and second portions . . . [that] can be only separated through use of a key that unlocks the first and second portions . . .” (Spec. 4:21-23) and defines a “key” as an “input that functions . . . for unlocking the first and second portions . . .” (Spec. 4:26-27). As discussed previously, Del Rio teaches a pair of spring arms 43 to retain the pins 22 and 24 in a pair

of channels 36 to securely attach the motor housing 12 to the nose piece 14. Thus, to release the nose piece 14 from the motor housing 12, a force and therefore, an “input” is applied to the spring arms 43 to release the pins 22 and 24.

Therefore, we agree with the Examiner that the combination of Metzger and Del Rio would have rendered obvious independent claim 1, including “wherein when the first portion is attached to the second portion a connection is created that is incapable of being inadvertently separated.”

Accordingly, we sustain the rejection of independent claim 1 under 35 U.S.C. § 103(a). Claims 2, 3, 7, 8, 10-16, 18 and 19 depend from claim 1 and Appellants have not presented any further arguments with respect to these claims. Therefore, we sustain the rejection of these claims under 35 U.S.C. § 103(a) for the reasons discussed with respect to claim 1.

Independent claims 20 and 23 recite limitations similar to those discussed with respect to independent claim 1. We sustain the rejection of claims 20 and 23, as well as claim 24, which depends from claim 23, for the reasons discussed with respect to claim 1.

DECISION

The decision to reject claims 1-27 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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